Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An electronic circuit, comprising:

a shift circuit that shifts j-bit digital data (j is a natural number) to be converted into k-bit digital data (k is a natural number); and

a correction circuit that is electrically coupled to the shift circuit, the correction circuit continuously changes the k-bit digital data that is obtained by the shift circuit in accordance with a change of the j-bit digitaldata,

the k-bit digital data being extended digital data which is larger than the j-bit digital data; and

the shift circuit classifying a range of the j-bit digital data into a plurality of groups and shifting digital data of each group by a predetermined number of bits in accordance with each group to convert the j-bit digital data into the k-bit digital data.

2. (Canceled)

3. (Previously Presented) The electronic circuit according to Claim 1,

the correction circuit being electrically coupled to electro-optical elements;

the j-bit digital data being luminance gray scale data that controls a luminance of the electro-optical elements; and

the k-bit digital data being extended luminance gray scale data that controls an amount of analog current that is supplied to the electro-optical elements.

4. (Previously Presented) The electronic circuit according to Claim 1, the correction circuit being an adder.

5. (Previously Presented) The electronic circuit according to Claim 1,

the shift circuit determining a number of bits by which the j-bit digital data is shifted in accordance with a value of the j-bit digital data.

6. (Previously Presented) The electronic circuit according to Claim 5,

the shift circuit performing shifting to an upper side so that a larger value group is shifted by a larger number of bits.

7. (Currently Amended) An electro-optical device, comprising:

a control circuit that outputs j-bit luminance gray scale data (j is a natural number);

a driving circuit that generates analog driving signals based on the j-bit luminance gray scale data; and

a pixel circuit that drives current driven elements based on the analog driving signals,

the driving circuit including:

a shift circuit that shifts the j-bit luminance gray scale data to convert the j-bit luminance gray scale data into k-bit digital data (k is a natural number);

a correction circuit that is electrically coupled to the shift circuit, the correction circuit continuously changing the k-bit digital data that is obtained by the shift circuit in accordance with a change of the j-bit luminance gray scale data,

the k-bit digital data being extended digital data that is larger than the j-bit luminance gray scale data; and

the shift circuit classifying a range of the j-bit ~~digital~~ luminance gray scale data into a plurality of groups and shifting digital data of each group by a predetermined number of bits in accordance with each group to convert the j-bit ~~digital~~ luminance gray scale data into the k-bit digital data.

8. (Canceled)

9. (Previously Presented) The electro-optical device according to Claim 7, the correction circuit being an adder.

10. (Previously Presented) The electro-optical device according to Claim 7, the shift circuit determining a number of bits by which the j-bit luminance gray scale data is shifted in accordance with a value of the j-bit luminance gray scale data.

11. (Previously Presented) The electro-optical device according to Claim 10, the shift circuit performing shifting to an upper side so that a larger value group is shifted by a larger number of bits.

12. (Previously Presented) The electro-optical device according to Claim 7, the current driven elements being EL elements.

13. (Previously Presented) The electro-optical device according to Claim 12, the EL elements including light emitting layers made of organic materials.

14. (Canceled)

15. (Canceled)